

BAKAY, A.S.; LITVINENKO, A.S.

Fifth All-Union Intercollegiate Conference on the Theory of  
Elementary Particles. Atom. energ. 16 no.6:539-540 Je '64.  
(MIR 17:7)

LITVINENKO, A. U.

"Mineralogy of Hydrates of Iron Oxide from the Kimmeridgian Strata of Priazov Region"  
(Mineralogy, Oxides) Geologichnyi zh. 13, No 1, 1953, pp 29-38

Abs

W-31146, 1 Feb 55

LITVINENKO, A. U.

USSR/Geology - Iron Ore, Sea of Azov 21 Jun 53

"Some Problems Concerning the Genesis of the Kimmeriyskiy Iron Ore Formations," A. U. Litvinenko

DAN SSSR, Vol 90, No 6, pp 1115-1118

States that the Kimmeriyskiy iron ore formations developed on a wide plain adjacent to the Sea of Azov from the north, west, south and southeast. As a result of these investigations the author assumes that these formations are present at significant depths under the Pliocene and Quaternary deposits and, at the present time, are found in the western part of the Sea of Azov. Presented by Acad V. A. Obruchev 10 Apr 53.

269T55

1 Jun 53

LITVINENKO, A. U.

USSR/Geology - Loess

"The Character of the Loess-Formed Rocks in the North Section of Zaporozhskaya Oblast,"  
A. U. Litvinenko and Z. I. Tanatar-Barash

DAN SSSR, Vol 91, No 1, pp 145-148

Discuss the characteristics of Quaternary loess-formed rocks and other sedimentary formations. State that geological data and also granulometric, mineralogical and chemical analysis substantiated the fact that loess originated from fluvial alluvial deposits, red-brown clays, red-brown loams, bare places of sarmatian clayey-sand deposits and original kaolins could account for part of the material which, in scattering, was deposited on the surface of watersheds and their slopes and terraces. Presented by Acad V. A. Obruchev, 23 Jan 53.

266T64

LITVINENKO, A. U.

USSR/Geology - Paleontology

Card 1/1 Pub. 22-40/54

Author: Litvinenko, A. U.

Title: Zoomorphoses from Kimmeriysk strata

Periodical: Dok. AN SSSR 102/5, 1001-1004, Jun 11, 1955

Abstract: Geological data are presented regarding the zoomorphic remains (bones of sea and land animals) discovered in the Kimmeriysk ore-containing strata. Sixteen Russian and USSR references: (1904-1953). Diagram, illustrations.

Institution: The Dnepropetrovsk State University (named in honor of the 300-th anniversary of the unification of the Ukraine with Russia)

Presented by: Academician N. M. Strakhov, December 25, 1954

15-57-2-1646  
Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 2,  
p 71 (USSR)

AUTHOR: Litvinenko, A. U.

TITLE: The Mineralogy of Biomorphosis in Association With the  
Origin of the Iron Ores of the Azov Basin (K minera-  
logii biomorfoz v svyazi s genezisom zheleznykh rud  
Priazovskogo basseyna)

PERIODICAL: Vopr. mineralogii osadoch. obrazovaniy. Books 3-4.  
L'vov, L'vovsk. un-t, 1956, pp 174-189

ABSTRACT: The biomorphosis of the Cimmerian beds of the iron-ore  
deposits on the Kerch' and Taman' Peninsulas is sub-  
divided into the biomorphosis of replacement and the  
biomorphosis of filling. The zoomorphosis of re-  
placement of fossil bones of marine and, rarely, of  
land animals is composed of kurskite. The zoomorphosis  
of filling is represented by the filling of mollusc

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15-57-2-1646

The Mineralogy of Biomorphosis (Cont.)

shells by mineral substances. Shells with open valves have been filled with oolitic ores and sandy clay material. Shells with completely closed valves contain purely authigenic minerals. Zoomorphic minerals are distinguished by various forms of segregations (different forms of crystals and druses, soil-like aggregates, earthy masses, etc.). They sometimes show concentric structures. Frequently a zonal arrangement in the distribution of minerals in the shells may be observed. The phytomorphosis of replacement has a woody structure (complete replacement) or shows slightly mineralized fragments of lignitized wood (partial replacement). It consists of authigenic minerals. The phytomorphosis of filling occurs in cavities that formed after the decomposition of woody material. In addition to authigenic minerals, it contains clastic material. In mineral composition one may distinguish 1) zoomorphosis of siderite, phosphates (vivianite and paravivianite), Fe hydroxides, colloidal Mn hydroxides, and barite and 2) phytomorphosis of barite, barite with amorphous silica, Ca phosphates, Fe phosphates (kerchenite and Card 2/3

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The Mineralogy of Biomorphosis (Cont.)

and bosporite), siderite, leptochlorite and siderite, and hydro-goethite. The second-stage minerals of biomorphosis are enumerated. Weathering and replacement processes are traced through biomorphosis. The presence of biomorphic transformations of various composition in the ore layers is demonstrated by migration within the ore sequence of Fe, Mn, P, Ca, Ba, S, F, and other elements. With the introduction of elements during biomorphic transformation there also occurred elimination of some elements contained in the primary organic material. The study of biomorphosis has led to the preliminary conclusions that the authigenic minerals appear sequentially in the development of the Cimmerian ore strata. These studies also lead one to relate the oolite development in the sediments chiefly to diagenetic processes and also furnish grounds for interpreting the nature of the landscape in the region adjoining the Cimmerian basin.

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M. N. S.



LITVINENKO, A.U.; NEMKOVA, V.K.

Study of vegetable remains from Cimmerian Stage deposits. Dokl.  
AN SSSR 107 no.2:317-320 Mr '56. (MLRA 9:7)

1.Dnepropetrovskiy nauchno-issledovatel'skiy institut geologii.  
Predstavleno akademikom N.M.Strakhovym.  
(Georgia--Paleobotany)

LITVINENKO, A. U.

20-4-40/51

AUTHOR: Litvinenko, A. U.

TITLE: On Ore-Forming Carbonates From the Cimmerian Sediments of the Kerch and Other Ore Deposits of the Near-Azov Iron Ore Basin (Orudobrazuyushchikh karbonatakh iz kimmeriyskikh otlozheniy kerchenskogo i drugikh mestorozhdeniy Priazovskogo zhelezorudnogo basseyana)

PERIODICAL: Doklady AN SSSR, 1957, Vol. 116, Nr 4, pp. 673-676 (USSR)

ABSTRACT: Carbonates (chiefly siderites) occur in ore layers of many deposits of sedimentary iron ores with oolitic composition. They are rather widely distributed in the ore layers mentioned in the title, however, they are only to a small extent researched. The new material obtained by the author facilitate a more complete characterization of the mentioned carbonates. They are represented in the sediments of the region in the north of the Azov Sea and in the steppes of the Crimea by small concretion contractions of micrograined structure. They form 1-3 concretion horizons and are as microscopic spherulithes distributed in the cement of the ores and in the ferriferous sandstones. They occur more frequently on the Kerch peninsula and are bound to the layers of so-called "tobacco ores" ("tabachnyye rudy"). Their rather manifold form depends on the kind of the centre around which these concretions have formed: pelez/podes shells (elliptic), wood

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On Ore-Forming Carbonates From the Cimmerian Sediments of the 20-4-40/51  
Kerch and Other Ore Deposits of the Near-Azov Iron Ore Basin.

splinters (lump- or spindle-shaped) etc. Their size varies between some centimeters and hundreds of meters. If the concretions coalesce, they form horizons which partly change over into continuous intermediate layers. The carbonates are also considerably distributed on the Taman' peninsula, especially on Cape Zheleznyy Rog. Eastwards they are to be seen up to the Stanitsa (Cossack village) Krymskaya 100-450 m in a depth of from. The carbonates are greenish-gray, and yellowish-gray or brownish if they are oxidized. Hardness = 2,5 to 4,5 specific weight = 3,2-3,8. They replace everywhere the leptochlorite-oolites, the loam-leptochlorite-cement, shells and their splinters of pelezypodes, grains of quartz, feldspar, sometimes of glauconite. They on their part are replaced by iron sulfites and phosphates. The spherolithes formation of anapaite in the carbonate are characteristic of the ore layers of the Taman' peninsula, those of Paravivianit, however, characteristic of the Kerch peninsula. The carbonate substance forms in the last mentioned region 90-95% of the concretions, on the Taman' - Peninsula - 73-90%. Manganese, magnesium, and partly calcium are in the carbonate, as isomorphous admixtures. A part of the Ca- as free  $\text{CaCO}_3$ . The composition varies not only between single concretion horizons, but even in single points of the same horizon, at a distance of from 100 to 300 m

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On Ore-Forming Carbonates From the Cimmerian Sediments of the Kerch and Other Ore Deposits of the Near-Azov Iron Ore Basin. 20-4-40/51

from each other, This variety is effected by the variety of the physical-chemical conditions during the diagenesis. Beside the mentioned carbonates unimportant separations of ankerite and calcium rhodochrosite occur on both peninsulas, they cover as thin crusts the inner part of the pelezypode shells and others. Mn amounts here to 38-40,16%, CaO -11,05-15,5%. The spectral analysis detected Al, Mg, Ba, P, Sr, Pb, Ni, Si, Fe, Ti, Zn and Mo. Ankerite and rhodochrosite belong to the epigenetic formations. Siderite and oligonite which are widely distributed in the ore layers can, if they are present in great quantity, influence the technologic properties of the "tobacco" ores. Oligonite increases the manganese content of these ores. In the case of weathering of siderite a great-concretion containing hydroxetite ore is formed which is easily to be enriched by the washing of the ore. There are 1 figure, 1 table, and 11 Slavic references.

ASSOCIATION: Scientific Geological Research Institute of the State University Dnepropetrovsk (Nauchno-issledovatel'skiy geologicheskii institut Dneptopetrovskogo gosudarstvennogo universiteta)  
PRESENTED: May 3, 1957, by N. M. Strakhov, Academician  
SUBMITTED: April 16, 1957  
AVAILABLE: Library of Congress  
Card 3/3

LITVINENKO, A. U.

20-5-36/48

**AUTHORS:** Litvinenko, A. U. and Kucherenko, M. T.

**TITLE:** Oolitic Siderite-Chamoisite Ores in Jurassic Deposits of the Dnepr-Donets Depression (Oolitovyye siderito-shamozitovyye rudy v yurskikh otlozheniyakh Dneprovsko-Donetskoy vpadiny)

**PERIODICAL:** Doklady AN SSSR, 1957, Vol. 116, Nr 5, pp. 847 - 850 (USSR)

**ABSTRACT:** Since the Jurassic deposits are mostly covered by the higher lying meso- and kainozoic sedimentary formations, their research is insufficient in spite of a rather wide distribution in the mentioned region. In the most recent time the layers mentioned in the title penetrated by several boreholes of the Ukrainian Geological Administration (Ukrainskoye geologicheskoye upravleniye) and of the trust "Ukruglegeologiya" (Ukrainian Coal-Geology). In the lower part these layers belong to the "middle Leias-Aalen"; ferriferous rocks, more or less enriched by oolites were found here. They lie transversely in depths of from 80 to 300 m. They rest upon conglomerate directly resting upon Triassic, or 12 m thick dark gray arenaceous loams. More eastwards a 26-meter-mass of dark gray loam separates the ore layers from Triassic. The ferriferous sediments are represented by 3 types: 1.) fine oolite siderite-chamoisite ore. Macroscopically dark green this ore has intermediate layers

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20-5-36/48

Oolitic Siderite-Chamoisite Ores in Jurassic Deposits of the Dnepr-Donets Depression

of micrograined carbonate (siderite) and loam. The oolites are rather solid, not greater than 1mm; 0,5 mm and smaller predominate. They are either dark green dull, or shining and black. With the oolites cornered and well rolled quartz grains, splinters of flint and of pelezypod shells occur. The oolites are often compressed under the microscope. In the most there is a core of splinters of carbonate, quartz, smaller oolites of former generations of chamoisite etc. The structure of the oolites is described in detail. The occurrence of almost globular oolites with 2 compressed separated ellipsoidal oolites in the core is a proof that this latter form was still during the sedimentation of the ore deposits and the formation of the ores themselves, i.e. before the ore layer was covered by higher layers. This form is probably caused by physical-chemical peculiarities of the slime sediments in which the oolites were produced. The green color of the exterior concentres of the oolites beside the inner zones which are brownish-yellow up to dark brown as well as the occurrence of the rearranged whole smoothly polished oolites prove a temporary alteration of the physical-chemical and hydrodynamical conditions of the marine basin during the sedimentation of the ferriferous deposits. In consequence of oxidation processes the oolites become yellowish and brownish. In consequence of the prevailing of reducing conditions the chamoisite of

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Oolitic Siderite-Chamoisite Ores in Jurassic Deposits of the Dnepr-Donets Depres-  
sion

the exterior centres became again green. The chemical analysis (table 1), the radiometric, and the thermal analysis prove unequivocally that the substance of the oolites is chamoisite. Its structure is described in detail. 2.) siderite. Among the above-mentioned ores as well as in ferriferous sandstones intermediate layers and concretions of a size up to 15 cm, of micrograined siderite, occur. It contains inclusions of the mentioned oolite, round pyrite grains, splinters of pelezypod shells, as well as of armors and needles of echinites. The chemical composition is not constant (is given). 3.) Ferriferous sandstones. Mostly middle- or fine-grained sandstones. Terrigenous grains are mainly represented by quartz. Microcline-, biotite, and single tourmaline grains, as well as pelezypod shell splinters are seldom found. Chamoisite-oolites exist always in a quantity of 15 - 20 %. The cement of the sandstone is basally carbonaceous, chamoisite-sideritic or siderite-loamy. The siderite of the cement has a spherulitic structure and decomposes as well as substitutes everywhere quartz-grains and shell splinters. Moreover, concretions of micrograined calcite are to be found in sandstone, microspherulite grains of siderite, needle- and armor splinters of echinites as well as shell-like

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20-5-36/48

Oolitic Siderite-Chamoisite Ores in Jurassic Deposits of the Dnepr-Donets Depression

and globular secretions of pyrites are densely distributed in the calcite. There are 3 figures, 1 table, and 1 reference, none of which is Slavic.

ASSOCIATION: Geological Scientific Research Institute, Dnepropetrovsk State University  
(Nauchno-issledovatel'skiy geologicheskii institut Dnepropetrovskogo gosudarstvennogo universiteta)

PRESENTED: May 3, 1957, by N. M. Strakhov, Academician

SUBMITTED: April 28, 1957

AVAILABLE: Library of Congress

Card 4/4



LITVINENKO, A.U.

Washouts in the Kerch ore deposit. Dokl. AN SSSR 117 no.2:291-293  
(MIRA 11:3)  
N. 57.

1. Dnepropetrovskiy gosudarstvennyy universitet. Predstavleno aka-  
drikom N.M. Strakhovym.  
(Kerch Peninsula--Ore deposits)

LITVINENKO, A.U.

Structural characteristics of ore bodies in the Kerch deposit and  
distribution of iron and manganese in them. Geol. rud. mestorozh.  
no. 4:37-64 J1-Ag '59. (MIRA 13:1)

1. Nauchno-issledovatel'skiy institut geologii Dnepropetrovskogo  
gosudarstvennogo universiteta.  
(Crimea--Ore deposits)

LITVINENKO, A.U.; kand.geolog-mineralogicheskikh nauk; NEVOYSA, G.G., inzh.

Material composition and problems of dressing Kerch deposit  
iron ores. Trudy Inst. Chern. Met. AN URSS 12:68-78 '60.  
(MIRA 14:5)

(Kerch Peninsula---Iron ores)  
(Ore dressing)

LITVINENKO, A.U.; DODATKO, A.D.

Distribution of organic carbon in ore-bearing deposits of the  
Azov Basin. Dokl. AN SSSR 135 no.2:423-426 N '60. (MIRA 13:11)

1. Nauchno-issledovatel'skiy geologicheskii institut  
Dnepropetrovskogo gosudarstvennogo universiteta. Predstavleno  
akademikom N.M.Strakhovym.  
(Azov region--Ore deposits) (Carbon)

LITVINENKO, A.U.; DODATKO, A.D.

Distribution of sulfur in the Cimmerian ore-bearing deposits of  
the Azov Basin. Dokl. AN SSSR 139 no.6:1452-1455 Ag '61.  
(MIRA 14:8)

1. Dnepropetrovskaya geologicheskaya ekspeditsiya Ukrainского  
nauchno-issledovatel'skogo geologorazvedochnogo instituta.  
Predstavleno akademikom N.M. Strakhovym.

(Azov Sea region—Ore deposits)  
(Sulfur)

LITVINENKO, A.U.; DROZDOV, G.M.

Hypergene magnetite from the weathering crust of ultrabasic rocks  
of the middle Dnieper Valley. Dokl.AN SSSR 145 no.2:414-417 J1  
(MIRA 15:7)  
1962.

1. Dnepropetrovskaya geologicheskaya ekspeditsiya Ukrainskogo  
nauchno-issledovatel'skogo geologorazvedochnogo instituta.  
Predstavleno akademikom N.M.Strakhovym.  
(Dnieper Valley—Magnetite)

LITVINENKO, A. U.; DODATKO, A. D.; KHOROSHEVA, D. P.

Some characteristics of the weathering crust of ultrabasic  
rocks of the middle Dnieper Valley. Dokl. AN SSSR 147 no.6:  
1444-1447 D '62. (MIRA 16:1)

1. Dnepropetrovskaya geologicheskaya ekspeditsiya Ukrainского  
nauchno-issledovatel'skogo geologorazvedochnogo instituta.  
Predstavleno akademikom N. M. Strakhovym.

(Dnieper Valley—Petrology)

LITVINENKO, A.U.; DODATKO, A.D.; KHOMICHENKO, D.P.

Characteristics of the structure, composition and minerals  
of the weathering surface on ultrabasic rocks in the middle  
Dnieper Valley. Kira vyvetr. no.6:125-138 '63. (MIRA 17:9)

1. Ukrainskiy nauchno-issledovatel'skiy geologo-razvedochnyy  
institut Dnepropetrovskaya geologicheskaya ekspeditsiya.



LITVINENKO, A.U., kand. geol.-miner. nauk, otv. red.; KNYAZEV,  
G.I., kand. geol.-ziner. nauk, red.; KHAVCHENKO, V.M.,  
inzh.-geol., red.; KULINEIKO, O.R., inzh.-geolog, red.;  
KHRIPKOV, A.V.; kand. geol.-miner. nauk, red.; EL'YANOV,  
M.D., kand. geol.-miner. nauk, red.; KOROLEVA, T.I., ved.  
red.

[Problems of the geology and mineralogy of ore deposits]  
Voprosy geologii i mineralogii rudnykh mestorozhdenii.  
Moskva, Nedra, 1964. 188 p. (MIRA 17:12)

1. Institut mineral'nykh resursov.

LITVINENKO, A.U.; POGREBNOY V.T.

New data on the ore potential of Cimmerian sediments in the  
region of the Sea of Azov. Dokl. AN SSSR 157 no.4:852-855  
Ag '6' (MIRA 27:8)

1. Predstavleno akademikom N.M.Strakhovym.

LITVINENKO, A.U.

Geochemistry of the Kerch iron-ore basin. Lit. i pol. iskop. no.4:  
21-42 J1-Ag '64. (MIRA 17:11)

1. Dnepropetrovskaya ekspeditsiya Ukrainskogo nauchno-issledovatel'-  
skogo geologo-razvedochnogo instituta.

LITVINENKO, A.U.; POGREBNOY, V.T.

Realgar and some characteristics of the distribution of arsenic  
in the ore-bearing formation in the Azov. and Kerch deposits. Lit.  
i Pol iskop. no.2:149-152 Mr-Apr '64. (MIRA 17:6)

1. Dnepropetrovskaya geologicheskaya ekspeditsiya.

LITVINENKO, A.O.

Study of glauconites. Lit. i pol. iskop. no.2:52-50 Mr-Ap '65.  
(MIRA 18:6)

1. Institut mineral'nykh resursov Gosudarstvennogo geologicheskogo  
komiteta SSSR, Dnepropetrovsk.

PA 30/49T56

LITVINENKO, A. V.

USSR/Engineering  
Turbogenerators  
Exciters, Vibration

Oct 48

"Eliminating the Vibration of an Exciter Bearing in a  
25,000-Kilowatt Turbogenerator," A. V. Litvinenko,  
Engr, 1 p

"Elek Stants" Vol XIX, No 10

Describes correct method of lining up the T2-25-2  
turbogenerator produced by "Elektrosil'" plant.

30/49T58

KULIKOV, A. I., starshiy elektromekhanik; LITVINENKO, A. V., elektromekhanik;  
SHEEYINOL'TS, I. I., elektromekhanik

Group transmission circuit. Avtom. telem. i svyaz' 4 no. 9:35-36 S  
'60. (MIRA 13:9)

1. Odesskaya distantziya signalizatsii i svyazi Odesskoy dorogi.  
(Telegraph--Equipment and supplies)

ACC NR: AP7002874

(A,N)

SOURCE CODE: UR/0201/66/000/004/0005/0011

AUTHOR: Krasin, A. K.; Litvinenko, B. A.; Savushkin, I. A.; Obratsova, Ye. A.

ORG: none

TITLE: Calculation of the radiation endurance of a boron-containing radiation element in the IRT-2000 loop installation

SOURCE: AN BSSR. Vestsi. Seryya fizika-tekhnichnykh navuk, no. 4, 1966, 5-11

TOPIC TAGS: nuclear reactor technology, reactor neutron flux, nuclear radiation, radiation chemistry, boron/ IRT-2000 reactor

ABSTRACT: The authors present the results of calculations aimed at checking the feasibility of using fuel rods containing boron glass fiber (filament diameter 5 - 7  $\mu$ ) and placed in the center of the IRT-2000 reactor. The radiation element was made of seven steel tubes (14 mm in diameter), forming a bundle, each tube being filled with boron glass enriched by 90% with  $B^{10}$ . The glass contained 80% (by weight) of  $B^{10}$  enriched to 90%. The calculations yield the optimal  $B^{10}$  concentration, the radiation power (the energy absorbed in the reagent), and also the change effected in the reactivity of the reactor by placing of the boron-containing element in the center of the reactor. The calculations demonstrate the feasibility of obtaining a sufficiently high radiation power with this type of element, sufficient for radiation-chemistry research. An effective way of increasing the radiation power is to increase the content of the  $B^{10}$  in the fiberglass filaments. In the particular

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ACC NR: AF7002874

reactor employed, with a neutron flux  $\sim 6 \times 10^{12}$  neut/cm<sup>2</sup>-sec thermal and  $\sim 1.4 \times 10^{13}$  neut/cm<sup>2</sup>-sec intermediate, the reactivity margin was found to be quite high ( $\sim 4.2\%$ ).  
Orig. art. has: 4 figures and 8 formulas.

SUB CODE: 18/

SUBM DATE: 12Jun66/

ORIG REF: 003/

OTH REF: 002

Card 2/2

LITVINENKO, B.S., zasluzhennyy izobretatel' RSFSR

Vise-type feed of strip billets for stamping. Mashinostroitel' no.6:  
37-39 Je '65. (MIRA 18:7)

LITVINENKO, B.Ya.

Ultrasonic impulse-reflection method for testing turbine disks.  
Zav. lab. 22 no.9:1068-1070 '56. (MIRA 9:12)

1. Khar'kovskiy turbinnyy zavod imeni S. M. Kirova.  
(Ultrasonic waves--Industrial applications)  
(Steel--Testing)

LITVINENKO, D., referent.

Eliminating lines of stress in low-carbon steel stamping.  
(From: "Sheet Metal Industries" no.331, "Journal of the  
Iron and Steel Institute" no.178, pt. 1 pge.34 pt.2 pge.  
127, 1954). Stal' 15 no.11:1050-1053 N '55. (MLRA 9:1)

(Steel--Defects) (Strains and stresses)

REVIEWED, D.A. referent.

Method of preventing the appearance of slip bands in low-carbon steel  
(from "Steel Processing" no.4, 1990. Steel 16 no.10:7-11 '56.  
(K. H. 10:7)

(Steel-Defects)

AUTHOR: Litvinenko, D.A., Rastorguyev, A.A., Candidates of Technical Sciences and Barziy, V.K., Engineer. 133-5-16/27

TITLE: Cold rolled deep drawing sheets from steels containing vanadium or aluminium. (Kholodnokatanyye listy s vanadiyem ili alyuminiyem dlya g'lubokoy vytyazhki avtokuzovykh ~~istal'ey~~)

PERIODICAL: "Stal'" (Steel), 1957, pp. 445-449 (U.S.S.R.)

ABSTRACT: In order to increase the resistance of low carbon steel to ageing the influence of a small addition of vanadium or for killed steel deoxidation with aluminium were investigated. The investigation was carried out on the Zaporozhstal' Works with the co-operation of engineers G.F. Chub, I.S. Marakhovskiy, A.A. Podgorodetskiy, I.L. Zlatkin, T.A. Ksensuk, S.S. Kolot, N.A. Troshchenkov, and on the Gorokov Motor Works (Gor'kovskiy Avtozavod ) in co-operation with engineers N.I. Letchford and N.M. Romanychev. The influence of the above additions was studied using metal from industrial open hearth heats (200 tons) which up to deoxidation in the furnace were carried out in the usual manner for low carbon steel Bf. Vanadium or aluminium was added in the ladle during the tapping of steel. Vanadium was introduced as 53% ferro-vanadium after preliminary deoxidation of steel in the ladle with a low carbon ferro-manganese (2.5 kg/ton) and silicon-manganese

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Cold rolled deep drawing sheets from steels containing vanadium or aluminium. (Cont.)

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(0.5 kg/ton) as well as in undeoxidised metal with an addition to the ladle of 0.1 kg/ton of aluminium. Rimming steel with vanadium was bottom cast while killed steel was top poured into ingot moulds with shrinkage heads. The chemical composition of experimental steels and the usual rimming steel OSKMBF is given in Table 1. Experimental ingots were rolled into slabs 95-115 mm thick. Slabs were rolled on a continuous mill into strip 2.0-2.5 mm thick with coiling at 820-850°C. After pickling and cutting the hot rolled strip was cold rolled into sheets 0.9-1.2 mm thick (reduction 45-64%), annealed at 680-700 °C and dressed with reduction of 0.8 -1.2%. The proportion of sheets rejected due to surface defects (films) for killed with aluminium steel was much higher (12%) than for rimming steel with vanadium and without additions (about 0.1%). The results of testing cold rolled sheets from experimental melts for stretching and depth drawing as well as determinations of hardness and micro-hardness are compared in Figs. 1 and 2 and Table 2. The micro-structures are shown in Fig. 3. The mechanical properties of cold rolled sheets after dressing and natural and artificial ageing are shown in Table 3. Results of stamping of motor car parts from

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Cold rolled deep drawing sheets from steels containing  
vanadium or aluminium.(Cont.)

133-5-16/27

experimental sheets (% of rejects for the individual parts) are given in Table 4. The experimental results indicated that an addition to rimming low carbon steel of 0.03-0.04% of vanadium or to killed steel of 0.07% of aluminium inhibits the process of mechanical ageing. In order to decrease the loss of vanadium the addition should be done in the ladle after preliminary deoxidation with low carbon ferro-manganese or silico-manganese. The addition of ferro-vanadium in a proportion of 0.5 - 0.7 kg/ton has no noticeable effect on the boiling of metal in ingot moulds. Sheets made from vanadium alloyed rimming steel (0.03 - 0.04%) possess high mechanical properties which remain practically unchanged with time and with high stamping properties. The use of the above steel on the Gor'-kovskiy Motor Works permitted decreasing the number of operations during stamping. Low carbon steel deoxidised with aluminium also possesses stable mechanical properties. It is expected that killed steel will find wide application in the motor car industry providing the technology of its production will improve so as to decrease the proportion of rejected sheets due to surface defects. There are 4 tables, 5 figures and 4 Slavic references.

Card 3/4



Cold rolled deep drawing sheets from steels containing  
vanadium or aluminium. (Cont.)

133-5-16/27

ASSOCIATION: TsNIICHM and Zaporozhstal' Works.

AVAILABLE:

Card 4/4

LITVINENKO, D.A

AUTHOR: Litvinenko, D. (Abstractor)

133-6-29/33

TITLE: Clad plate steel. (Plakirovannaya tolstolistovaya stal').

PERIODICAL: "Stal'" (Steel), 1957, No.6, pp.566-567 (USSR).

ABSTRACT: Abstracted from: "Nuclear Engineering", 1956, v.1, No.3,  
pp.97-100.

AVAILABLE: Library of Congress  
Card 1/1

LITVINENKO, D.A.

130-7-12/24

AUTHORS: Litvinenko, D.A. (Cand.Tech.Sc.), Turitsyn, V.V. and Sporyshkov, P.N.

TITLE: Improving the Technology of the Cooling of Crack Sensitive Rolled Products. (Usovershenstvovaniye tekhnologii okhlazhdeniya flokenochuvstvitel'nogo prokata)

PERIODICAL: Metallurg, 1957, Nr 7, pp. 23-24 (USSR)

ABSTRACT: Previous practice for cooling blooms, especially of alloy steels, from the 1150-mill at the "Krasnyy Oktyabr" works was unsatisfactory. This practice is described and a new method, developed at the works on the basis of an analysis of crack occurrence in blooms of types 30XFT, 30-35XPCA and 37XC steels, is outlined. In this the blooms are laid on the sand bed in several layers. The cooling of 120-250 mm diameter rounds has also been improved and the duration shortened to that used for blooms, 48 hours. There is 1 figure, 1 table.

ASSOCIATION: Central Research Institute for Ferrous Metallurgy and the "Krasnyy Oktyabr" works. (Tsentral'nyy Nauchno-Issledovatel'skiy Institut Chernoy Metallurgii, Zavod "Krasnyy Oktyabr")

AVAILABLE: Library of Congress.

Card 1/1

*LITVINENKO, D.A.*

LITVINENKO, D. referent.

Aspects of the production of steel for extrusion (from "Sheet Metal Industries," 34 no.357 1957). Stal' 17 no.12:1121-1123 D '57.  
(Steel) (MIEA 11:1)

SOV-113-58-8-14/21

AUTHOR: Litvinenko, D.A., Candidate of Technical Sciences;  
Chirkin, V.M.

TITLE: Apparent Shear Lines on the Surface of Car Body Parts  
(Lozhnyye linii sdviga na poverkhnosti kuzovnykh detaley)

PERIODICAL: Avtomobil'naya promyshlennost', 1958, Nr 8, pp 40-41 (USSR)

ABSTRACT: The "Zaporozhstal'" Plant has made a study of the peculiar raised lines which often appear on the surface of car body parts stamped from annealed sheet steel. These lines, assumed to be shear lines, appear in the same form and place on parts stamped from the various sheets of a given batch. The study carried out at the plant reveals that they have nothing in common with shear lines but are, in fact, formed in the sheets after annealing and during transportation to the dressing mill or when sheets, stuck together, are peeled apart. The author calls them fracture lines and shows that they can be reproduced in the laboratory. They can be avoided by taking steps to prevent the formation of fractures (creases) in the annealed steel sheets. There are 2 photos, 1 figure and 1 graph.

Card 1/2

SOV-113-58-8-14/21

Apparent Shear Lines on the Surface of Car Body Parts

ASSOCIATION: TsNII chernoy metallurgii (TsNII for Ferrous Metallurgy)

1. Automobile industry--USSR
2. Metals--Processing
3. Metals--Properties

Card 2/2

Sov/133/58-9-21/29

AUTHOR: Litvinenko, D. A. (Cand. Tech.Sciences)

TITLE: The Production and Stamping Ability of Cold Rolled Motorcar Sheet Steel (Proizvodstvo i shtampuyemost' kholodnokatanoy avtolistovoy stali)

PERIODICAL: Stal', 1958, Nr 9, pp 834-838 (USSR)

ABSTRACT: This is a contribution to the previously published paper by G. D. Rogoza (Ref.1). The present author disagrees with Rogoza as to the advisability of limiting the tests for the stamping ability of steel to hardness and yield point, but considers that Eriksen's tests, the determination of the ferrite grain size and the control of the tensile diagram should be added. The use of a cheaper semikilled steel for stamping complicated parts but insensitive to slip lines is also advocated. There are 7 figures and 7 references, all Soviet.

ASSOCIATION: TsNIICHM.

Card 1/1

SOV/133-58-10-8/31

**AUTHORS:** Yefimov, L.M., Litvinenko, D.A., Candidates of Technical Sciences, Barzily, V.K., Marinov, A.I. and Yakushin, V.I., Engineers

**TITLE:** The Production of Semi-killed Steel (Proizvodstvo poluspokoynoy stali)

**PERIODICAL:** Stal', 1958, Nr 10, pp 885 - 890 (USSR)

**ABSTRACT:** An investigation of optimum deoxidation conditions for the production of semi-killed steel is described. Experimental heats were carried out when smelting Q8ps and MSt3ps steels. Smelting technology was the same as for the production of corresponding rimming steels. Heats were carried out on 185-ton open-hearth furnaces with magnesite-chromite roofs, with supply of oxygen to the bath. The proportion of hot metal - 65%. Smelting conditions are described in some detail. The composition of experimental heats and teeming conditions are given in Table 1. A comparison of chemical non-uniformity of hot rolled strip from rimming and corresponding semi-killed steel is given in Table 2. It was found that semi-killed steel obtained by deoxidation of rimming steel in ingot moulds, corresponds as to microstructure and mechanical

Card1/2



The Production of Semi-killed Steel

SOV/133-58-10-8/31

properties of hot and cold rolled sheets to the requirement of standards for respective rimming steel; as to chemical uniformity and drawing properties it is noticeably superior to rimming steel, approaching the corresponding properties of killed steel. An addition of 350-400 g/t (for 0.8ps) and 150-200 g/t (for MSt3ps) of aluminium during top teeming at the end of filling of the moulds leads to an increase in the yield of metal on the slabbing mill to 90%. A further large-scale check of the results obtained is recommended. There are 2 tables.

ASSOCIATIONS: TsNIICHM and "Zaporozhstal'" Works.

Card 2/2

SOV/133-58-10-22/31

**AUTHORS:** ~~Litvinenko, D.A.~~ Candidate of Technical Sciences and  
Marinov, A.I., Barziy, V.K. and Yakushin, V.I., Engineers

**TITLE:** The Production and Properties of Aluminium-Killed Non-  
ageing Sheet Steel (Proizvodstvo i svoystva uspokoyennoy  
alyuminiyem nestareyushchey listovoy stali)

**PERIODICAL:** Stal', 1958, Nr 10, pp 931-938 (USSR)

**ABSTRACT:** The development of the technology of production of killed non-ageing steel containing aluminium and suitable for the manufacture of cold-rolled sheets which, in addition to high drawing properties and non-sensitivity to slip lines, possessed good surface when rolled from non-dressed slabs. Two deoxidation methods of low-carbon O8kp VGV steel were tested: 1) with aluminium shot in top-poured moulds and 2) with aluminium in the ladle and subsequent bottom-pouring of ingots. The quality of the experimental metal was tested during all manufacturing stages, including stamping of motor-car bodies. It was established that in order to produce motor-car bodies without defects due to slip lines, by stamping, it is advantageous to use cold-rolled sheets of low-carbon steel in which the process of mechanical ageing is localised by stabilising additions

Card 1/4

SOV/133-58-10-22/31  
The Production and Properties of Aluminium-Killed Non-Ageing Sheet Steel

of vanadium or aluminium. From economic considerations, aluminium is more advantageous. Introduction into low-carbon rimming steel 08kp VGV of aluminium in an amount sufficient to obtain not less than 0.02% of residual aluminium sharply increases the stability of steel against mechanical ageing. Work hardening and a decrease in plastic properties as well as the appearance of the yield stage on the tensile curve of such steel is observed only after an artificial ageing at 200 °C for one hour. On deoxidation of the metal with aluminium shot in moulds, when the level of the metal is about 150 - 200 mm below the filling level, the quality of the surface of cold-rolled sheets is higher than from killed steel deoxidised with aluminium in the ladle and bottom-poured. Moreover, for the deoxidation in moulds about 50% less aluminium is required than for deoxidation in the ladle. Shrinkage defects in ingots of killed steel top-poured into moulds (wide and down) without tops, are completely welded during cold rolling. Therefore, sheets made from the upper third of ingots are not inferior in quality from those made from the bottom half of the ingots. For the above reason, the

Card2/4

SOV/133-58-10-22/31  
The Production and Properties of Aluminium-Killed Non-Ageing Sheet Steel

yield of slabs from such ingots should be about 90% which is higher than from rimming steel ingots. Large ingots (9-18 ton) of aluminium-killed steel are more uniform in chemical composition and mechanical properties in comparison with rimming steel ingots. The above permits improving the technology of low-carbon steel for hot and cold-rolled sheets VGV by: a) increasing the weight of ingots to 18 tons and above; b) increasing the range of permissible sulphur content to 0.03% instead of 0.025%; c) economising ferromanganese and d) rolling VGV sheets from the head part of the ingots. With regard to microstructure, sheets of killed steel differ from sheets of 08kp VGV steel mainly in the tendency to form finer grains and fine, structurally free cementite, as well as non-equilibrium grains, elongated in the direction of rolling. Non-metallic inclusions of the killed steel consist mainly of uniformly distributed aluminates, the amount of which is

Card3/4

SOV/133-58-10-22/31  
The Production and Properties of Aluminium-Killed Non-Ageing Sheet Steel

higher when aluminium is introduced in moulds than when it is introduced in the ladle.

There are 1 figure, 5 tables and 3 Soviet references.

ASSOCIATIONS: TsNIICHM and zavod "Zaporozhstal'" ("Zaporozhstal' Works)

Card 4/4

LITVINENKO, D.

AUTHORS: Levinzon, Kh. and Litvinenko, D. 133-58-3-21/29

TITLE: The Production and Properties of Boron-containing Non-aging Steel (Proizvodstvo i svoystva borsoderzhashchey nestareyushchey stali)

PERIODICAL: Stal', 1958, <sup>8</sup>Nr 3, pp 249-252 (USSR)

ABSTRACT: This is a survey of Western literature on the subject. There are 5 Tables and 9 references, 4 Soviet and 5 English.

AVAILABLE: Library of Congress

Card 1/1

SOV/28-59-4-11/19

.28(3); 25(1)

AUTHOR: Litvinenko, D.A., Candidate of Technical Sciences

TITLE: Thin Sheet Steel for Automobile Bodies (Tonkolisto-  
vaya stal' dlya avtomobil'nykh kuzovov)

PERIODICAL: Standartizatsiya, 1959, Nr 4, pp 27-28 (USSE)

ABSTRACT: These are comments to the new state standard "GOST 9045-59" for automobile body sheet steel, approved by the Komitet standartov, mer i izmeritel'nykh priborov (Committee of Standards, Measures and Measuring Devices). The optimum for automobile bodies is rimming low-carbon steel (with silicon content below 0.01%) with up to 0.08% carbon, 0.30-0.45% manganese, not more than 0.03% sulfur and 0.2% phosphorus. The standard includes non-ageing sheet steel stabilized by special additives. It is

Card 1/2

S/137/61/000/001/007/043  
A006/A001

Translation from: Referativnyy zhurnal, Metallurgiya, 1961, No. 1, p. 12,  
# 1D105

AUTHORS: Rastorguyev, A.A., Litvinenko, D.A.

TITLE: Preventing Flake Formation in Rolled Steel

PERIODICAL: "Tr. Nauchno-tekhn. o-va chern. metallurgii", 1959, Vol. 15, pp.  
56-66

TEXT: The following two methods are proposed: 1) preventing flake formation by the heat treatment method. The optimum heat treatment conditions for steels of various structural classes and in multi-tonnage metallurgical industry, are as follows: air cooling of the metal after rolling below the  $A_1$  or M points, for a period not exceeding the incubation time of flake formation; during this period the metal is accumulated, heated, held at a maximum temperature of the  $\gamma$ -state and air cooled. 2) for perlite class steels the metal is held in pits at elevated temperatures. ✓

V. P.

Translator's note: This is the full translation of the original Russian abstract.  
Card 1/1



LITVINENKO, D.A.

P.2

PHASE I BOOK EXPLOITATION

SOV/3629

Moscow. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii

Spetsial'nyye stali i splavy (Special Steels and Alloys) Moscow, Metallurgizdat, 1960. 488 p. (Series: Its: Sbornik trudov, vyp. 17) Errata slip inserted. 4,000 copies printed.

Sponsoring Agencies: Institut kachestvennykh staley; Gosudarstvennyy planovyy komitet Soveta Ministrov SSSR; and Glavnoye upravleniye nauchno-issledovatel'skikh i proyektnykh organizatsiy.

Ed.: M.V. Pridantsev; Ed. of Publishing House: A L. Ozeretskaya; Tech. Ed.: V.V. Mikhaylova.

PURPOSE: This book is intended for engineering and research personnel in the metallurgical and machine-building industries.

COVERAGE: This book contains papers on the physical properties of special industrial steels and alloys. Individual papers treat: the problem of flake formation in steels and preventive measures, the effect of alloying additions and heat treatment on the struc-

Card 1/6

Special Steels (Cont.)

SOV/3629

ture and properties of steel, steel corrosion and preventive measures, and the properties of chromium-nickel alloys. There are 120 references: 87 Soviet, 22 English, 9 German, and 2 French.

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AVAILABLE: Library of Congress

Card 6/6

VK/jb  
6-6-60

RASTORGUYEV, A.A., kand.tekhn.nauk; ~~LITVINENKO, D.A.~~ kand.tekhn.nauk

Prevention of'floc formation in rolled.steel. Sbor. trud. TSHIICHM  
no.17:5-27 '60. (MIRA 13:10)  
(Steel--Defects) (Rolling (Metalwork))

RASTORGUYEV, A.A., kand.tekhn.nauk; LITVINENKO, D.A., kand.tekhn.nauk

Prevention of floc formation in pearlitic steel. Sbor. trud.  
TSHIICHM no.17:28-38 '60. (MIEA 13:10)  
(Steel--Defects) (Steel ingots--Cooling)



18-1150

28560

S/137/61/000/C09/053/087  
A060/A101

AUTHORS: Pridantsev, M. V., Litvinenko, D. A.

TITLE: The influence of phosphorus upon a number of properties of nichrome austenitic steel

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 9, 1961, 15, abstract 9197  
("Sb. tr. Tsent. n.-i. in-t chernoy metallurgii", 1960, no. 17, 386 -397)

TEXT: Increased P content (up to  $\sim 0.4\%$ ) has practically no effect on the ductility of austenitic Cr-steel X25H20 (Kh25N20) under hot pressure treatment. The ductility of that steel drops sharply only at  $\sim 0.6\%$  P content. The presence of  $\sim 0.4\%$  P causes the phenomenon of dispersion hardening of steel after hardening and subsequent tempering at 600 - 850°C. Dispersion hardening in steel is connected with the separation from the solution of a second P-containing phase, which is, apparently, a solid solution of the phosphides of Fe, Ni and Cr. The possibility is shown of using P as an alloying element for increasing the heat-resisting properties of alloys, in particular, of austenitic Cr-Ni steel Kh25N20.

Card 1/2

The influence of phosphorus ...

28560 S/137/61/000/009/053/087  
A060/A101

The alloying of steel with the P amount of  $\sim 0.4\%$  sharply raises the magnitude of endurance strength of that steel under high temperatures and stresses.

T. Rumyantseva

[Abstracter's note: Complete translation]

Card 2/2

LITVINENKO, D.A., kand.tekhn.nauk; YAKUSHIN, V.I., inzh.

Killed, low-carbon, nonaging steel with rimmed crust for cold-rolled sheet. Stal' 21 no.8:735-741 Ag '61. (MIRA 14:9)

1. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii.

(Steel ingots)

S/193/62/000/010/002/007  
A004/A101

AUTHOR: Litvinenko, D. A., Candidate of Technical Sciences

TITLE: Improving the quality of low-carbon steel for cold-rolled sheets

PERIODICAL: Byulleten' tekhniko-ekonomicheskoy informatsii, no. 10, 1962, 13 - 16

TEXT: The author compares a number of non-ageing low-carbon steel grades intended for cold-rolled sheets used in particular in the automotive industry and mentions the BF (VG) group (highly deep-drawing quality) according to TOCT (GOST) 914-56 made of 08 kп (08kp) rimming steel and the practically non-ageing cold-rolled sheets made of the 08 Ю (08Yu) killed steel or 08 Фкп (08Fkp) rimming steel with Al- and V-additions according to GOST 945-59. It is pointed out that 08Yu steel sheets from ingots without shrinkage heads obtained a higher percentage of serviceable production (89%) than from ingots with shrinkage heads (80%). Comparative tables show the mechanical properties, percentage of rejects, etc. of hot-rolled strip and cold-rolled sheet material. In developing a technology for producing non-ageing sheets with Al, the dependence of the mechanical properties on the rolling technology was established.

Card 1/2

S/193/62/000/010/002/007  
A004/A101

Improving the quality of...

To obtain cold-rolled 08Yu steel sheets with high mechanical and deep-drawing properties, it is necessary to strictly limit the final rolling temperature and the coiling temperature of the hot-rolled strip. Besides, the precipitation of aluminum nitrides during the annealing process of cold-rolled sheet together with the formation of ferrite grains stretched out along the rolling direction ensures high mechanical and deep-drawing properties. Apart from aluminum and vanadium, also boron was tested as stabilizing additive (0.004 - 0.009%) for type 08 low-carbon steel. The mechanical properties of semi-killed steel containing boron are listed in a table. There are 5 tables. ✓

Card 2/2

S/133/62/000/012/011/012  
A054/A127

AUTHOR: Litvinenko, D.A.

TITLE: The effect of arsenic and phosphorus on the properties of 08  
(08kp) grade deep-drawing steel

PERIODICAL: Stal', no. 12, 1962, 1,108 - 1,115

TEXT: In view of the composition of the Kerchensk ore deposits the effect of the arsenic and phosphorus content in low-carbon steels have been studied at the zavod "Zaporozhstal'" ("Zaporozhstal'" Plant) on 08kp grade steel. Arsenic was added in the form of briquettes (containing 30.7% As, 0.27% C, 0.24% Si, 0.4% S, 0.36% P, the balance: iron). Phosphorus was introduced as 15% ferro-phosphorus (with 0.53% C, 0.084% S and 0.7% Mn). As the Kerchensk ores contain also vanadium, ferro-vanadium (47.1%) was also added in some tests. Arsenic used in amounts up to 0.14% had no adverse effects on the properties of 08kpBFB (08kpVGV) slabs in the cold rolling of sheets. Arsenic had no tendency to pronounced and regular liquation. Its liquation is lower than that of sulfur and phosphorus. Addition of arsenic or phosphorus alone has a strengthening effect

Card 1/3

S/133/62/000/012/011/012  
A054/A127

The effect of arsenic and phosphorus on ....

on the 08kp grade in hot-rolled or cold-rolled condition, after annealing and finishing. At the same time, however, it slightly reduces the ductility of the steel. The effect of phosphorus on the mechanical properties of 08kp steel is 5 times stronger than that of arsenic. Containing about 0.10% arsenic or 0.017% phosphorus the sheet hot-rolled from the upper half of the slab did not conform to the GOST 914-56 (GOST 914-56) as to strength and relative elongation. The standard requirements can be attained with an arsenic content of up to 0.14% and a phosphorus content increased to 0.024% (GOST 914-56 for VGV sheets). The effect of arsenic and phosphorus on the mechanical properties of hot-rolled and cold-rolled sheets is not cumulative. As to microstructure, the most characteristic feature of a higher arsenic content is the steel tending to form a striated structure, on account of local arsenic concentrations (dendritic liquation), whereas up to an arsenic content of 0.14% no effect is observed with regard to the size of ferrite grains. Phosphorus, however, has a marked effect on the ferrite grain size, which increases if the phosphorus content is higher (0.017 - 0.024%). The suitability of cold-rolled sheets containing arsenic and phosphorus for stamping and deep drawing has been tested at the Moscow and Gorkiy automobile plants, on "Zaporozhstal" sheets. 08kp cold-rolled sheets containing more than

Card 2/3

The effect of arsenic and phosphorus on .....

S/133/62/000/012/011/012  
A054/A127

0.09% arsenic and 0.015% phosphorus are less suitable for deep drawing of automobile parts than the conventional grades (mainly those rolled from the upper part of the slab). This unfavorable effect of As and P can be offset by adding 0.01 - 0.02% vanadium to the 08kp grade, containing about 0.12% As and about 0.02% P. After cold-rolling, such steels are suitable for stamping, drawing and deep drawing. There are 7 figures and 4 tables.

ASSOCIATION: TsNIICbM

Card 3/3



LITVINENKO, D.A.; CHIRKIN, V.M.

Production and quality of cold-rolled sheets of nonaging steel.  
Sbor.trud.TSNIICHM no.27:189-198 '62. (MIRA 15:8)  
(Sheet steel)

LITVINENKO, D.A.; CHIRKIN, V.M.

Effect of arsenic on the properties of low-carbon automobile  
sheet steel. Sbor.trud.TSNIICHM no.27:199-210 '62.

(MIRA 15:8)

(Steel, Automobile)

LITVINENKO, D.A., CHIRKIN, V.M.

The effect of arsenic on the properties of low carbon steel for car body sheets.

SPECIAL STEELS AND ALLOYS (SPETSIAL'NYE STALI I SPLAVY), Collection of Studies, Issue 27, 240 pages, published by the State Scientific and Technical Publishing House for Ferrous and Non-Ferrous Metallurgy, Moscow, USSR, 1962.

LITVINENKO, D.A., CHIRKIN, V.M.

Production and quality of cold rolled non-aging steel sheets.

SPECIAL STEELS AND ALLOYS (SPETSIAL'NIYE STALI I SPILAVY), Collection of Studies, Issue 27, 240 pages, published by the State Scientific and Technical Publishing House for Ferrous and Non-Ferrous Metallurgy, Moscow, USSR, 1962.

LITVINENKO, D.A.; YAKUSHIN, V.I.

Pouring of killed low-carbon steel in ingot molds without  
riser head. Stal' 22 no.9:791-754 S '62. (MIRA 15:11)  
(Steel ingots)

PRIDANTSEV, M.V., prof., doktor tekhn.nauk; LEVINZON, Kh.Sh.; LITVENENKO,  
D.A.; CHIRKIN, V.M.

Heat treatment of low-carbon rolled sheets in conveyer furnaces.  
Bul.tekh.-ekon.inform.Gos.nauch.-issl.inst.nauch.i tekhn.inform.  
no.11:9-14 '62. (MIRA 15:11)  
(Steel, Structural--Heat treatment)

LITVINENKO, D.A.

Effect of arsenic and phosphorus on the properties of 08kp  
steel for deep drawing. Stal' 22 no.12:1108-1115 D '62. (MIRA 15:12)

1. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy  
metallurgii.

(Steel---Analysis) (Deep drawing (Metalwork))

S/193/63/003/001/001/008  
A004/A101

AUTHORS: Yefimov, L. M., Candidate of Technical Sciences, Litvinenko, D. A.,  
Candidate of Technical Sciences, Yakushin, V. I.

TITLE: Production and prospects of using steels with incomplete reduction

PERIODICAL: Byulleten' tekhniko-ekonomicheskoy informatsii, no. 1, 1963, 3 - 8

TEXT: This article offers a survey on the production and use of steels with incomplete reduction, such as semi-killed and capped steels. The authors point out that this kind of steel is widely used in the USA and Britain and that many plants in France, Belgium and Japan are producing steels with incomplete reduction which are particularly used in the automobile industry. It is emphasized that, with a production figure of some 2.5 mill. tons for the first half-year of 1962, the production of this steel type in the USSR is hitherto insufficient. The major amount of semi-killed steel produced in the USSR comprises the grades Ct.5 (St. 5), M45 and ECT .6 (RSt. 6), used mostly for sections employed in mining. The authors present a detailed description of the technological processes of producing steel with incomplete reduction, and tables showing the percentage of serviceable pro-  
Card 1/2



Production and prospects of using steels with...

S/193/63/000/001/001/008  
A004/A101

duction and the strength characteristics of the MCr.3 (MSt. 3) and MCr .3kp (MSt. 3kp) grade steels. They report that, at present, work is being performed to extend the assortment of semi-killed steels at the "Zaporozhstal'" Plant. It can be taken into account, however, that semi-killed steels with medium and lower degree of reduction possess a considerably higher tendency to ageing and a lower cold resistance than killed steels. There are 2 tables and 1 figure.

Card 2/2

LITVINENKO, D. A., kand. tekhn. nauk

Improving the quality of low-carbon steel for cold-rolled sheets.  
Bul.tekh.-ekon.inform.Gos.nauch.-issl.inst.nauch. i tekhn.  
inform. no.10:13-16 '62. (MIRA 15:10)

(Steel)

LITVINENKO, D.A.; DRYASHIN, I.B.; CHIRKIN, V.M.

Cold-rolled sheets with increased drawing characteristics.  
Avt.prom. 29 no.1:32-33 Ja '63. (MIRA 16:1)

1. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy  
metallurgii i Moskovskiy avtozavod imeni Likhacheva.  
(Steel, Structural)

YEFIMOV, L.M., kand.tekhn.nauk; LITVINENKO, D.A., kand.tekhn.nauk;  
YAKUSHIN, V.I.

Production and prospects for the use of incompletely deoxidized steels.  
Bul.tekh.-ekon.inform.Gos.nauch.-issl.inst.nauch.i tekhn.inform.  
no.1:3-8 '63. (MIRA 16:2)

(Steel--Metallurgy)

LITVINENKO, D.A.

Corner templates for studying the skin zone of an ingot. Sbor.  
trud. TSNIICM no.32:111-113 '63. (MIRA 16:12)

LITVINENKO, D.A.

Properties of cold-rolled 08p sheet steel containing arsenic. Sbor,  
trud TSNIICHHM no.35:107-109 '63. (MIRA 17:2)

ACCESSION NR: APL029130

S/0133/64/000/004/0357/0361

AUTHOR: Litvinenko, D. A.

TITLE: Boron in low-carbon steel for deep stampings

SOURCE: Stal', no. 4, 1964, 357-361

TOPIC TAGS: boron, low-carbon steel, stamping, deep stamping, cold rolling, nonaging steel, half-killed steel, boron nitride

ABSTRACT: Stabilizing properties of boron added to steel were investigated in the production of nonaging, half-killed, low-carbon steel to be used in sheets for deep stampings. The experiments were carried out under industrial conditions on individual ingots and on whole batches of steel 08 rimmed steel melted in the Zaporozhstal' plant. Boron in amounts no smaller than 0.004% was introduced in the form of 19% ferrobore containing 6-10% of Al and about 1% of Si. The original chemical composition of two steel batches (A and B) was:

Melt	C, %	Mn, %	S, %	[C] x [O]
A	0,08	0,41	0,022	0,0016
B	0,08	0,38	0,030	0,0025

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ACCESSION NR: APL029130

Boron in amounts ranging from 0.001 to 0.005% was added in the course of pouring. Its final content in steel was 0.0012-0.0036%. Reduction of oxygen was accomplished by adding 0.34-0.40 kg of Al/ton. It was ascertained that boron exerts a stabilizing influence on steel. The plastic segments of the stress-strain curves show that it has an inhibiting effect on the process of mechanical aging. Steel so smelted produces cold-rolled sheets with a relatively low tendency toward aging and with a low tendency to show shear lines in stampings. In both hot- and cold-rolling such sheet proved to be soft, malleable, and capable of producing deeply stamped parts. The effects of boron are explained by its ability to combine with nitrogen and to form a nitride which does not participate in the process of aging.

"V. M. Chirkin of TsNIICHM, V. A. Filonov (deceased), D. A. Shirinskiy, V. K. Barziy, F. A. Ksenzuk, S. S. Kolot, M. T. Ryazanova of the Zaporozhstal' plant, and I. B. Dryashin of the Moscow Automobile Plant participated in this work." Orig. art. has: 2 graphs and 5 tables.

ASSOCIATION: TsNIICHM

SUBMITTED: 00

DATE ACQ: 28Apr64

ENCL: 00

SUB CODE: ML

NO REF SOV: 002

OTHER: 004

Card 2/2



L 16906-65EWT(m)/EWA(d)/EWP(t)/EWP(b) Pad IJP(c)/ASD(m)-3/AFETR JI/HW  
ACCESSION NR: AP4049104 S/0129/64/000/011/0010/0015

AUTHOR: Litvinenko, D. A.; Stavitskiy, Yu. I.

TITLE: New low-carbon, age-hardenable, structural steels

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 11, 1964, 1-15

TOPIC TAGS: low carbon steel, structural steel, nickel steel, aluminum containing steel, molybdenum containing steel, titanium containing steel, cobalt containing steel, maraging steel, mechanical property, superstrength steel

ABSTRACT: In a search for low-carbon, high-strength structural steels, several maraging steels containing 8 or 20% Ni, and additionally alloyed with Al, Mo, Ti, and Co, have been investigated. Steel specimens were annealed at 7810-950C, air cooled, and aged at 450-600C. Tests had shown that nickel steels containing Al, Ti or Mo and Co are age hardenable and increase appreciably in strength after brief aging at 400-550C. Maximum strengthening was obtained by aging at about 500C; the strengthening effect became more pronounced as the Al or Ti

Card 1/2

L 16906-65

ACCESSION NR: AP4049104

2

content was increased. Strengthening of low-Ni (9% Ni) steels was accompanied by a sharp decrease in their ductility and toughness. In high-Ni (18—20% Ni) steels, however, aging only slightly decreased ductility and toughness. Even after aging to a maximum tensile strength of 150—170 kg/mm<sup>2</sup> (depending on the combination of alloying elements), these steels had an elongation of 10—12%, a reduction in area of about 60%, and an impact strength of 5.0—6.0 kgm/cm<sup>2</sup>. These steels have a high resistance to brittle failure, a low susceptibility to temper brittleness, a low notch sensitivity, and have high hardenability. Smooth and notched specimens of maraging high-Ni steels aged to a tensile strength of 150—170 kg/mm<sup>2</sup> had an endurance limit of 70—72 and 28—30 kg/mm<sup>2</sup>, respectively. Sulfur and phosphorus sharply decrease the ductility and toughness of these steels; therefore, the content of these impurities should not exceed 0.010% each. Orig. art. has: 5 figures and 3 tables.

ASSOCIATION: TsNICherMet

SUBMITTED: 00

ENCL: 00

SUB CODE: MH, IE

NO REF SOV: 000

OTHER: 002

ATD PRESS: 3150

Card 2/2

LITVINENKO, D.A.; STAVITSKIY, Yu.I.

New low carbon structural steel hardened by aging. Metalloved. 1  
term. obr. met. no.11:10-15 N '64. (MIRA 18:4)

1. TSentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii  
imeni I.P.Bardina.

ACC NR: AP7000709

SOURCE CODE: UR/0133/66/000/012/1126/1131

AUTHOR: Gladshteyn, L. I.; Litvinenko, D. A.; Levinzon, Kh. Sh.

ORG: none

TITLE: Strengthening of structural steel by heat treatment

SOURCE: Stal', no. 12, 1966, 1126-1131

TOPIC TAGS: low alloy steel, structural steel, ~~structural~~ steel property, ~~structural~~ steel heat treatment, *metal heat treatment*

ABSTRACT: The effect of rapid cooling on the strength of several low-alloy structural steels has been investigated. St.3KP, 19G, 14G2 and 15GS structural steel plates, 20 mm thick, were quenched from 900C in various media. It was found that rapid cooling (water quenching) increases the yield strength up to 75 kg/mm<sup>2</sup> and the tensile strength up to 85 kg/mm<sup>2</sup> at an elongation of 10% and a reduction of area of 45%. Strengthening of low-alloy structural steel by heat treatment depends to a great extent on carbon, manganese and chromium contents and to a lesser degree on silicon content. Low-alloy steels with carbon content not more than 0.16% have high ductility at a wide range of quenching rates. By increasing the carbon content and by cooling at a rate of 40—50 degrees/sec, the ductility and notch toughness of these steels may drop due to the formation of heterogeneous structure. In welding, steels strengthened by heat treatment (yield strength 60—75 kg/mm<sup>2</sup> lose 10—30% of this strength in the weld-adjacent zone.

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UDC: 539.4.01:621.78/669.691.7]

ACC NR: AP7000709

Small amounts of molybdenum and vanadium (0.2% of each) added to low-alloy steels do not affect significantly the strength of steels rapidly quenched from the austenitic state, but significantly strengthen steels which were cooled slowly or those which were annealed at high temperatures. This aids in preserving high strength of welds in steels strengthened by heat treatment. Orig. art. has: 7 figures and 3 tables.

SUB CODE: 11/3/SUBM DATE: none/ ORIG REF: 012/ OTH REF: 005/

Cord 2/2

LITVINENKO, D.L.; SHCHASTNYI, P.M.; YAKUSHIN, V.I.; VASIL'YEV, A.N.;  
PODYNOGIN, I.Ye.; YUDIN, N.S.; YEVSTAF'YEV, Ye.I.; RUBINSKIY, P.S.;  
ELIMELAKH, R.Z.; MARSHCHIY, N.F.

Greater use in industry of semikilled steel. Metallurg 8 no.3:10-19  
Mr '63. (MIRA 16:3)

(Steel—Metallurgy)

LEONENKO, E. F., KRYZHEV, N. S., KOTLYAR, A. A., KOTLYAR, A. A.,  
SEMYENKO, V. V., SLOVAKOVA, V. V., LONCHIKOVA, O. A., KOTLYAR, A. A.,  
ALAKHITCH, V. V.

"On the natural focus of malaria in the Ukrainian SSR." p. 106.

Desyataya konferentsiya po parazitologicheskim problemam i prirodnym zoonozam  
Kievskaya. 22-29 Oktobra 1959 g. (10th Conference on Parasitological  
Problems and Diseases with Natural Foci 22-29 October 1959), Izvestiya  
1959, Academy of Medical Sciences USSR and Academy of Sciences USSR, No. 1  
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Basin Sanitary-Epidemiological Station, Public health Min. Uk SSR/Kiev

LITVINENKO, S. P., STEPANOVA, I. A., TUBUNTSEVAYA, V. N.

"The discovery of listerellosis infection among the ticks and wild rodents of the Ukrainian SSR." p. 211

Desyatoye soveshchaniye po parazitologicheskim problemam i prirodnoocharovam blieznyam. 22-29 Oktyabrya 1959 g. (Tenth Conference on Parasitological Problems and Diseases with Natural Foci 22-29 October 1959), Moscow-Leningrad, 1959, Academy of Medical Sciences USSR and Academy of Sciences USSR, No. 1. 251pp.

Basin Sanitary-Epidemiological Station, Public Health Min. Uk SSR/Kiev



PAVLYUCHENKO, M.M.; LITVINENKO, E.Ye.; BASOVA, N.P.

Effect of the pH of the medium on the adsorption of octadecylamine acetate on potassium and sodium chlorides and sulfates. Dokl. AN BSSR 9 no.8:520-522 Ag '65. (MIRA 18:10)

1. Institut obshchey i neorganicheskoy khimii AN BSSR.

MARKEVICH, S.V.; ALEKSANDROVICH, K.E.M.; LIIVINENKO, E.V. [Lutvinenka.  
E.E.]

General characteristics of the nonsoluble rocks of sylvanite  
ore in the Starobin deposit. Vestsi AN BSSR. Ser. fiz.-tekh. nav.  
no.2:44-51 '62. (MIRA 18:4)

LITVINENKO, F.F. (Stavropol'skiy kray)

Visual aids in teaching percentages. Mat.v shkole no.4:52-55  
Jl-Ag '62. (MIRA 15:11)  
(Percentage) (Mathematics—Audio-visual aids)

LITVINENKO, F. P.

Grasses

Summer sowing of perennial grasses in the forest steppe zone. Korm.baza 3 No. 6, 1952

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